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NO 13

An
Inaugural Essay
on
The Sedative effects of Cold
for the degree
of
Doctor of Medicine
by
Thomas Nelson
of
Virginia
1810

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An Essay &c

Both Reason & Experiment pronounce Cold to be a debilitating Agent."

To prove this position is the object of the following essay - That the subject is important & worthy serious investigation will be admitted by all who are embarked in the practice of the Medical profession - The justly celebrated professor of the Institutes & Practice of Medicine in the University of Pennsylvania says "That next to man Cold is the greatest Enemy to man" - Altho the Doctor supposes Cold to be one of the chief sources of Disease, thinks it has been & promises to be a still more valuable Agent in the cure of Disease - To ascertain then its operation upon the Animal system is of the highest practical Utility - In these circumstances stand to apologize for the effort to ascertain its direct operation upon

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That Cold is matter or that there exists such a
 any as actual frigorific particles appears to have
 - an opinion entertained by Muschenbroek &
 any other - The ground of this doctrine was, the
 sensation which it produces being as painful as
 from a positive body, & the circumstance of
 or congealed water occupying more space than
 in a liquid state - Water they imagined
 be naturally or essentially fluid & to have
 fluidity in consequence of the round figure
 of its particles - They therefore
 thought that to give it solidity, some powerful
 but was necessary, as frigorific atoms of angular
 pointed & wedge like forms, which being introduced
 among those of the water, might entangle &
 by them one with another - Upon these two
 facts

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acts alone has the belief of the existence of frigor
 particles been founded, with most of them
 we have adopted the opinion - But this is
 doctrine which has but few if any abettors
 the present day - It now appears to be
 stated by a great majority of Chymists that
 it is nothing but a privation, an absence of
 matter of Heat, that as Silence is the ab-
 sence of Sound & Darkness, the absence of Light,
 is Cold the absence of Heat - To support
 the doctrine there have been many arguments
 & experiments advanced, which would be as
 necessary as foreign to the special object
 of this essay to relate - It being then granted
 that Cold is the mere absence of Heat, I shall
 now proceed to consider its direct & immediate
 effects

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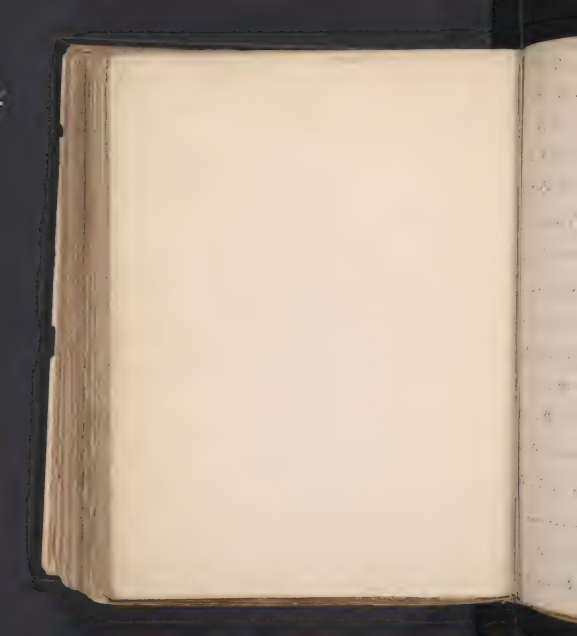
ffects upon the animal system -

"Whatever directly reduces the excitement of the system is properly call'd a Sedative" - This is a position so well established I think myself safe in making it the groundwork of my arguments - Independent of facts which I am presently to relate I would conclude (I think logically) from the circumstance of blood being a mere absence of heat, that it must act as a Sedative - We know that Heat is one of the most powerful stimuli to, then that is more natural than to suppose the contraction of it would have a Sedative operation upon, the animal system - Is not the blood a Stimulus, & does not the abstraction of it from, reduce the excitement of, the system? Is not this analogy a fair one? But this is

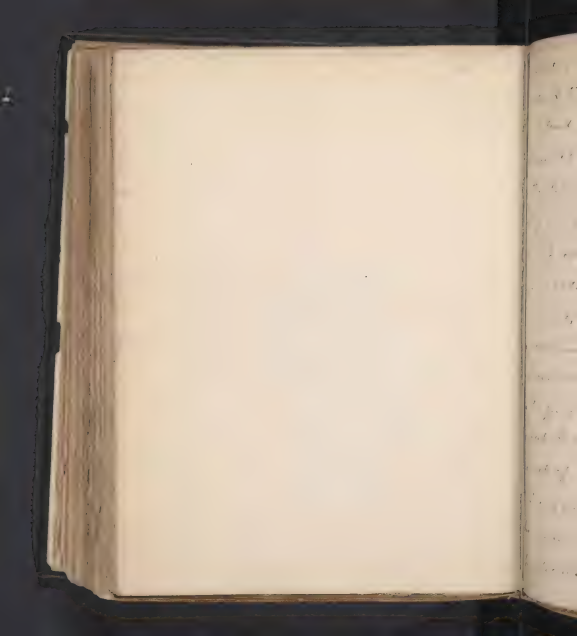
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more abstract reasoning & I shall go on to
make a list of facts which may be considered more
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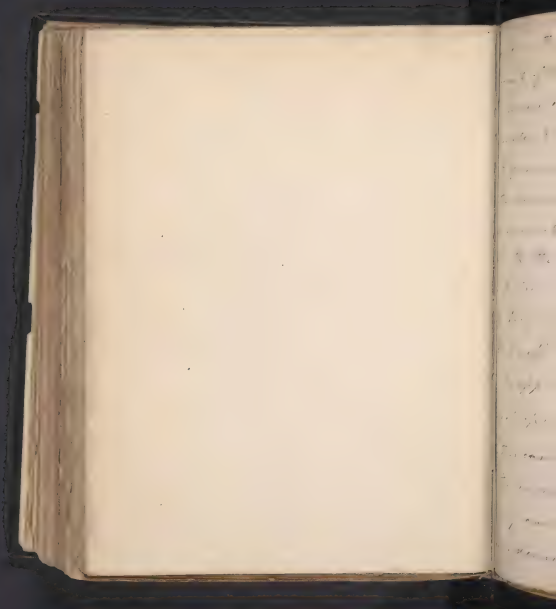
That cold induces the excitement of the system
for 1st from experiments which have been made
on the human body (see the Human body p. 10)
the 2^d from the effects on the Human body
the use - The time that the system is excited
is seen to be the least, being with a
few to the subject of the body different
facts - ... the ... the great
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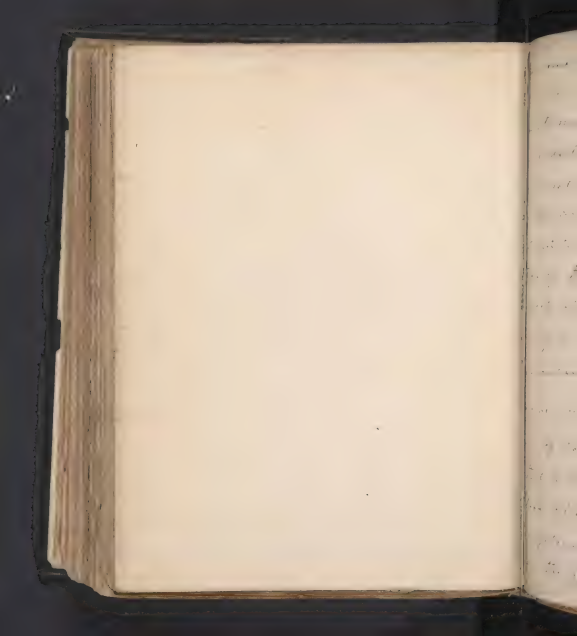
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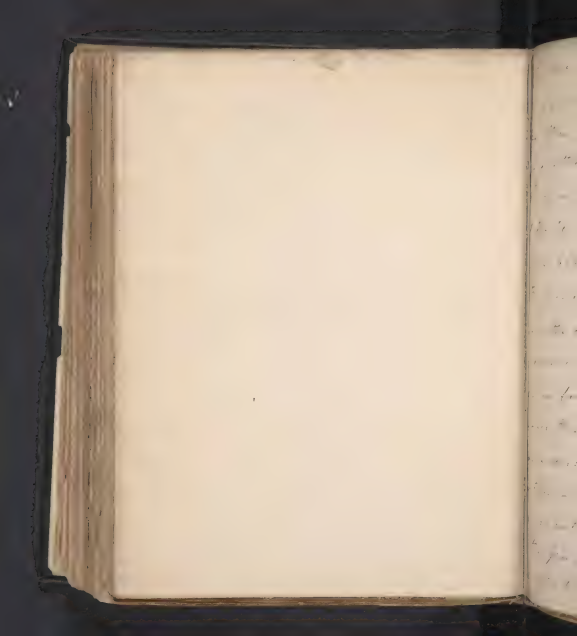
account of the accuracy of their descrip-
 tions of the rocks to which they allude, I
 am indebted for my own private satisfaction
 to have repeated them. But the time & space
 in the preparation of my "thesis" being much
 too long, & my wants being increased, I am
 obliged to use opportunity — I shall
 therefore send a list of Dr. H. 's papers & ex-
 periments in his own words —
 of the 1st "On the expansion of my inter-
 ests to afford my preparations for mind
 to purchase & put me to use in a
 set of cold water, a few degrees above
 freezing point — this experiment
 was very successful, was very cautious
 in the manner of using every thing which



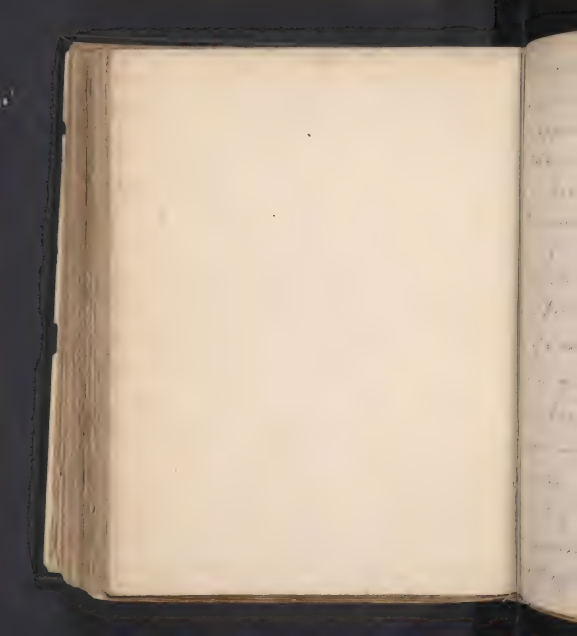
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nerved to the brain, & the following is an exact
account of his report - Two minutes after
the immersion the pulse beat 13 strokes the
minute, 3 minutes 12; 4 minutes 12; 6 minutes
11; 9 minutes from the commencement
the immersion it appeared by pulsations
minute - As the water was now requiring
the the experiment was discontinued -
The pulse was observed not only to become
less frequent but it lost much of its force
but not its force. Does not this experiment of
the pulse in contact with water prove that the
operation of cold is that of a Sedative
this case no objection ought to be made
the immersion of his feet into water -
any can be made it is that the water
is colder than the atmosphere must
have



as some meet with action on the part
 of the system, but this would necessarily have
 a stimulating & if course is far from
 stimulating the result would be observed
 and not now we only follow our experiments
 and differ from those of Dr. W. W. W.
 it not to be attributed to the mechanism
 of the human mechanism in which the
 objects of the former experiments were
 only as to the manner in which they were
 conducted, as from both it has
 been said that it is only a single
 case of cold that will produce a
 state of moderate degree in the
 human system, & every other part of
 the system. To obviate this objection he
 has the following experiment "I have



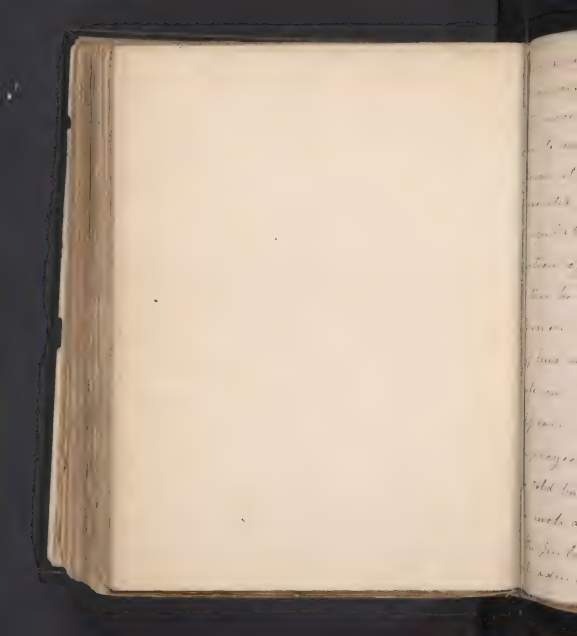
The true exhalation, was found to heat
1st 100, 100 & usually 100, it strikes two minutes
3. The subject in a sitting room with
a thermometer exposed to the air; & on the
1st minute of his exposure to an atmosphere
the temperature of 60° of Fahrenheit, he
was heat 60 degrees; on the 15th 58, & on the
2nd minute it afforded 57 pulsations -
and the commencement to the end of the
experiment the pulse was sensibly dimin-
ished in force & frequency. This experiment
shows that even a moderate degree of cold
has a direct & sensitive effect on the human
system. - Dr. A. Lapp also made some ex-
periments proving that cold applied
to the pulmonary system had the same
stimulating effect as when applied to the
cutaneous



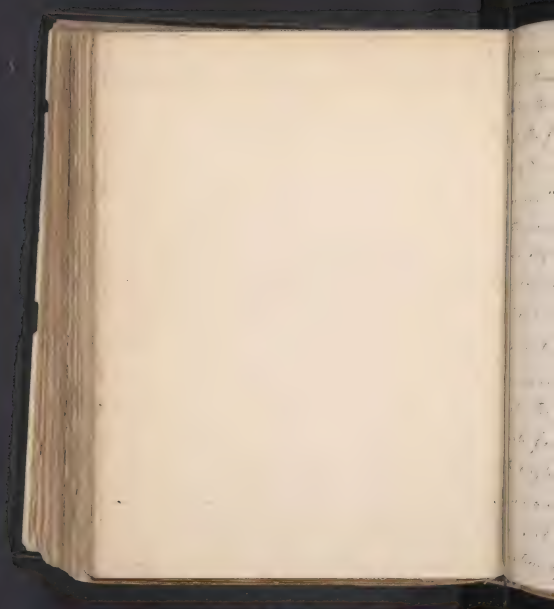
to cause, as both

These, together with the
 our experiments in use & delayed by Dr.
 sh appear to me to be sufficient to prove
 that Cold is a direct cause to the Human
 in Health.

I shall now proceed to the 2^d part
 of my argument Viz Cold is said to
 produce by its effects upon the Human
 in Disease - The operation of Cold
 in a doubtful nature has rendered
 in disease difficult & dangerous.
 It has great value in some &
 in other cases of disease will not
 operate and it is the chief object of
 part of my subject to ascertain in
 all kinds of Disease it has had these
 direct effects - The Cause of which



I have already spoken, in this abstract, on
the different degrees says "to sprinkle
the vessels in inflammatory diseases, it
must be so judicious that the sensation which
it should be as much as possible
excited, & that the application should be
regulated so to ensure the effectual re-
duction of the temperature of the patient
thus be the case. The sudden & temporary
effusion of cold water so dangerous in
influenza will not be salutary or inces-
sant in inflammatory fever. In which it
appears to me that the patient, if cold is
played round sink himself slowly in
cold bath, continuing the immersion
such a duration as the state of his heat
the pulsation of his heart & in ter-
admit" - It goes on to say "By
the



express a note which I deliver from me, it appears that we are concerned in more or less in the sensation of cold especially at the

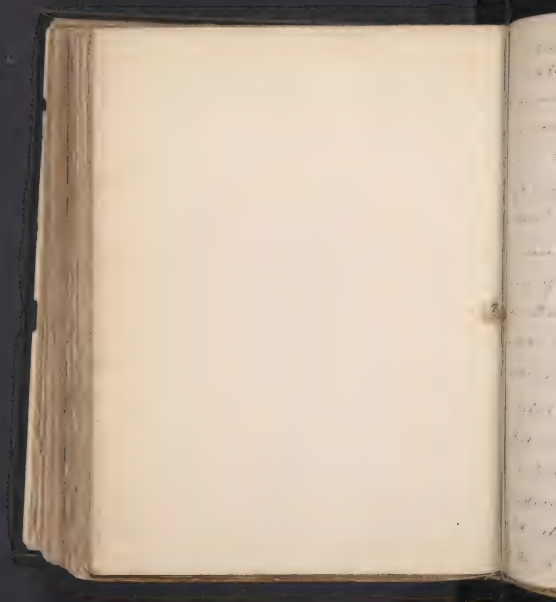
1. the frequency of the pulse is in a most decided manner increased" He then

says "and though in some respects the cold is not probably so acute, yet it is a good deal more frequent to ourselves against saying it is, 'When the & then more, it is' with 'do not think in movement' and 'what experience are there in the

state of the body" - He then

states that the frequency of the pulse is in a most decided manner increased" He then

says "and though in some respects the cold is not probably so acute, yet it is a good deal more frequent to ourselves against saying it is, 'When the & then more, it is' with 'do not think in movement' and 'what experience are there in the state of the body' - He then states that the frequency of the pulse is in a most decided manner increased" He then



It is an excellent opportunity in regard to
 information & various minds - I wish that it
 were a meeting house, but in another part
 of the market, speaks that in effect, & even
 in the evening in the same place, a chronic
 of the same type. Upon a last point, part
 in the case of the same - I wish to see it held
 in case of too much action & I feel that it is
 a case of too little action! I wish to see it
 held. The same circumstances are common
 and I wish to see that does the most
 under the best selling. I wish to see it
 ordinary efforts however it is held in the
 best action is not only admitted by
 me but by almost all practitioners
 in the case. Who at the present day
 will refuse to oppose to a case even a
 small part in the English writing
 of the



of small pox - who would refuse to
apply cold water, as he & the Board in Op
say?

And some have inferred that cold is then
best when the circumstances of the case that
is a full by a person just come from a
tropical climate, & that some have
inferred, & concluded by Dr. H. & others, that
the person has the disease in cold blood
by the 1st & concluded in the 2^d & 3^d circum-
stances it is wrong to treat & not to cold but
to treat with care of the circulation, & the
person being at a higher temperature
the water acts with more force, &
this being the nature of the skin & growth
it is produced

It has been urged to use the cold is then
to govern the circumstances of the nature
in



some cases as a Sudorific & in some as a
 Cathartic when applied to the Skin - I think
 ten examples so far from favouring the
 opinion of its being a Stimulus, tend greatly
 to confirm the fact I contend for - Do we
 not know that the very cases in which cold
 will have these effects other sedative reme-
 dies as Blood letting &c will have the same
 case is related by Dr Rush, where the patient
 was so warm that a sweat could not be
 produced by the common Sudorifics, but
 sponge being immersed in cold water,
 a copious Diaphoresis appeared on every part
 to which it was applied - Now does not
 this manifestly show that it is its sedative
 not its Stimulant operation which pro-
 duced this effect - Here the system was
 labouring under too much Stimulus, it was
 necessary

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necessary to reduce it to that degree at which the Blood vessels would take on the action necessary to a Diaphoresis - This degree Dr. Rush very properly, I think, calls the Sweating point. I have little doubt but what Blood letting would have had the same effect -

Did time permit I might go on to state the reasons which have induced me to adopt this opinion that Cold is a Sedative - But not the multiplicity of reasons which convinces the mind of any fact - The testimony even one creditable witness is sufficient to establish the point -

To my own feelings I would be committing an act of injustice, not to take this opportunity of rendering my acknowledgements to the Professors for the Instruction and friendly attention I have received from each of

— Finis —

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